

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1.-10. (Cancelled)

11. (New) A honeycomb structure comprising:

porous partition walls, and

a plurality of cells each functioning as a passage of a fluid, surrounded by the porous partition walls and arranged so as to be parallel to each other in the central axis direction of the honeycomb structure,

characterized in that a plurality of honeycomb segments having such a shape that each segment is part of the honeycomb structure and, when bonded to each other in a direction normal to the central axis of the honeycomb structure, forms the honeycomb structure, are bonded integrally by a bonding material containing a ceramic as a main component and a particulate filler.

12. (New) A honeycomb structure according to Claim 11, wherein the particulate filler contained in the bonding material has an average diameter of 10 to 300 μm .

13. (New) A honeycomb structure according to Claim 11, wherein the particulate filler contained in the bonding material has a hollow structure.

14. (New) A honeycomb structure according to Claim 11, wherein the bonding material contains the particulate filler in an amount of 20 to 70% by volume.

15. (New) A honeycomb structure according to Claim 11, wherein the bonding material further contains at least one member selected from the group consisting of inorganic particles, an oxide fiber and a colloidal oxide.

16. (New) A honeycomb structure comprising:

porous partition walls, and

a plurality of cells each functioning as a passage of a fluid, surrounded by the porous partition walls and arranged so as to be parallel to each other in the central axis direction of the honeycomb structure,

characterized in that a plurality of honeycomb segments having such a shape that each segment is part of the honeycomb structure and, when bonded to each other in a direction normal to the central axis of the honeycomb structure, forms the honeycomb structure, are bonded integrally by a bonding material and the resulting bonded body is coated, at the outer surface, with a coating material containing a ceramic as a main component and a particulate filler.

17. (New) A honeycomb structure according to Claim 16, wherein the particulate filler contained in the coating material has an average diameter of 10 to 300 μm .

18. (New) A honeycomb structure according to Claim 16, wherein the particulate filler contained in the coating material has a hollow structure.

19. (New) A honeycomb structure according to Claim 16, wherein the coating material contains the particulate filler in an amount of 20 to 70% by volume.

20. (New) A honeycomb structure according to Claim 16, wherein the coating material further contains at least one member selected from the group consisting of inorganic particles, an oxide fiber and a colloidal oxide.